bel canto

e.One™ series

PHONO3VB

USER'S GUIDE

PHONO3VB™

Two Channel Analog

Pre-Amplifier

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Important Safety Instructions

Explanation of symbols used in this manual or on the rear/underside of the apparatus:

The Lightning Flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product enclosure that may be of sufficient magnitude to constitute a risk of shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

TO COMPLETELY DISCONNECT THIS APPARATUS FROM THE AC MAINS, DISCONNECT THE POWER SUPPLY CORD PLUG FROM THE AC RECEPTACLE.

THE MAINS PLUG OF THE POWER SUPPLY CORD SHALL REMAIN READILY ACCESSIBLE.

Disconnect supply cord before changing fuse.
Refer servicing to qualified service personnel.

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPARATUS TO RAIN OR MOISTURE AND OBJECTS FILLED WITH LIQUIDS, SUCH AS VASES, SHOULD NOT BE PLACED ON THIS APPARATUS.

- Read, keep and follow these instructions.
- Heed all warnings.
- Do not use the apparatus near water, ie near a bathtub, kitchen sink, laundry tub, in a wet basement, near a swimming pool etc.
- Clean only with dry cloth.
- Do not block any ventilation openings. Install in accordance with the Manufacturer's instructions. Site the apparatus so that its location or position does not interfere with its proper ventilation. For example, the apparatus should not be situated on a bed, sofa, rug, or similar surface that may block the ventilation openings, or placed in a built in installation such as a bookcase or cabinet that may impede the flow of air through the ventilation openings.
- Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus that produce heat.
- Do not defeat the safety purpose of the polarized or grounding type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. If the provided plug does not fit into your outlet; consult an electrician for replacement of the obsolete outlet.
- Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and at the point where they exit from the apparatus.
- Unplug this apparatus during lightning storms or when unused for long periods of time.
- Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug has been damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
- Mains plug: Use the mains plug to disconnect the apparatus from the mains supply. The mains plug must be accessible at all times. Use the mains switch (if applicable) when the apparatus is not in use.
- Objects and liquid entry: Do not let objects or liquids fall into the apparatus. Do not expose the apparatus to dripping or splashing. Do not place a vessel containing liquid on top of the apparatus.
- No naked flame sources, such as lighted candles, should be placed on the apparatus.
- The apparatus has been designed for use in moderate and tropical climates

In The U.K.

Fuse replacement:

This appliance is fitted with a non-rewireable 10 amp mains plug. The plug contains a 10 amp fuse. If the fuse has blown it can be replaced as follows:
a) Pull out the black fuse cover/carrier.
b) Remove and dispose of the blown fuse.
c) Fit a new 10 amp BS1362 approved fuse into the carrier and push the carrier back into the plug.

Always ensure the fuse cover is fitted. If the fuse cover is missing do not use the plug. Contact your Bel Canto retailer to obtain a replacement fuse cover. Fuses are for fire protection and do not protect against electric shock.

WARNING: THIS APPLIANCE MUST BE GROUNDED.

FCC NOTICE

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Green By Design

All Bel Canto products make use of compact and efficient design principles. Our products use less resources per unit to produce better performance than ever before. Everything from reduced packaging volume, to less weight in transport helps to reduce the overall environmental impact of bringing our products into the market.

Our products make very efficient use of electricity. Low energy usage and compact size ensure that the physical and environmental footprints of all Bel Canto products are minimized. Quality and performance play into this approach as all of our products are designed to remain vital and valid performers for many years. Should you want to upgrade to one of our new products, we even offer trade-in value for your old Bel Canto product to ensure that it is recycled in the most efficient and responsible manner.

RoHS and WEEE

All of our current products are designed and produced to RoHS standards, ensuring that dangerous materials do not enter the waste stream. Lead free electronics assemblies and environmentally safe finishing and production methods are utilized to ensure that our products and processes are environmentally safe.

Bel Canto Recycles

Bel Canto has always been a forward thinking company. In the same way that we are focused on the development of high-end audio products, we are also conscious of what we leave behind. For many years we have implemented environmentally sound measures to make the most efficient use of resources and keep our impact at a minimum.

We reuse or recycle more than 99% of the packing materials for our incoming parts shipments. Each year we divert massive amounts of cardboard, paper, plastic film, and Styrofoam from landfills. Our plastic and Styrofoam is delivered directly to local facilities that process it on site for use in their manufacturing. Steel, aluminum, and other metal waste products are delivered to local metal scrap yards for recycling back into the production stream.

We also participate in Waste Management's e-Cycling program. All electronic waste is processed in the US, with hazardous material being separated from non-hazardous, at ISO 9001 and ISO 14001 certified regional processing centers.

Our commitment to responsible production processes ensures that the absolute minimum of material used in the making of our products enters the waste stream.

Warranty Information

Bel Canto products are automatically covered by a 90 day factory warranty that covers all internal parts and labor. Register online (http://www.belcantodesign.com/Belcanto_Warranty.html) within 30 days of purchase from an authorized dealer to automatically extend your warranty for 2 years starting from the date of purchase. If you do not have web access, please contact your dealer for assistance. Upon fully completing registration, within 5 business days you will receive an email that officially validates your warranty. Your information will be used for internal use only and will not be sold or released outside Bel Canto. Your comments and suggestions are appreciated and help us continually improve our products and services.

The warranty is only valid to the original owner and is non-transferable. Damage caused by unauthorized modification, abuse, or neglect of product will void your warranty. Any cost associated with return of product is the sole responsibility of the owner. All returns require a return authorization number issued after completing the RMA form in the support section of our website. If you have any questions, please feel free to contact us online at info@belcantodesign.com.

Unpacking Your PHONO3VB

PRe3 box contents include the following:

1 (one) – PHONO3VB Preamplifier
1 (one) – PHONO3VB User's Guide
1 (one) – VB Power Cable

Carefully unpack each piece and check for shipping damage. If there is any damage, or if anything is missing, please contact your dealer, distributor or Bel Canto Design.

IMPORTANT: Save all packing materials as they are specially designed to protect the unit during transportation or shipping. If the packing becomes lost or damaged, please contact your dealer, distributor or Bel Canto before attempting to transport your unit.

Power Connection

The power supply on the PHONO3VB is preset for the proper power voltage. The power cable should have the correct plug for your local power system. If you believe this to not be true, please contact your dealer immediately.

This product, like any electrical component, can be dangerous and cause injury unless correct handling procedures are observed and used. Before powering this product, it is necessary to read and follow proper setup and procedures.

WARNING!
Do not connect power to this product yet!

Setup & Placement

Because the PHONO3VB runs cool, it can be placed in many system locations without compromise. We do not recommend placing weights or other objects directly on the PHONO3VB. This may scratch or mar the chassis finish. Do not use harsh chemicals when cleaning the outside of your PHONO3VB.

Single Ended RCA and input and output are available. You can place the PHONO3VB close to the turntable and minimize the length of the low level interconnect from your cartridge. When power is applied the front panel blue LED will light.

IMPORTANT!
Make all connections before powering your unit!

Design Features

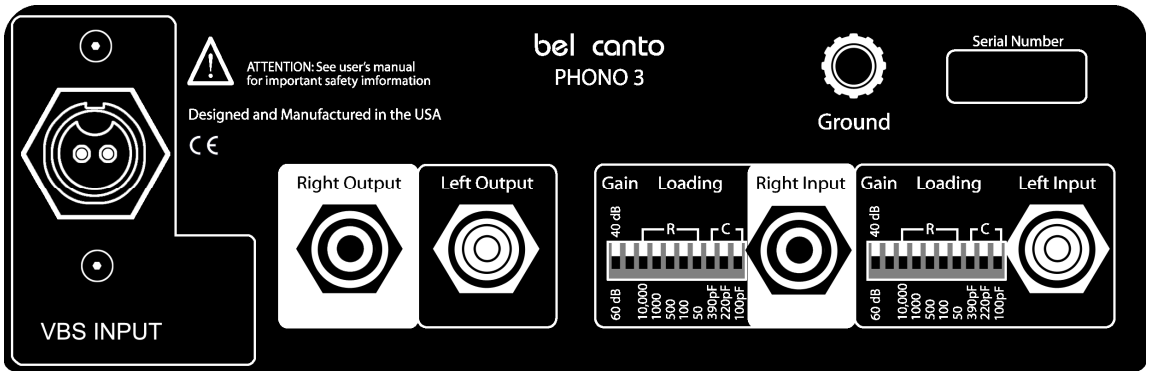
The Bel Canto PHONO3VB is designed to provide low noise operation for moving coil and moving magnet phono cartridges and high accuracy audio RIAA equalization:

- All analog, low noise, low distortion Class A integrated circuit architecture.
- High current output buffer for driving any load.
- 4-layer PC board design for superior signal routing, grounding and power supply routing.
- Latest generation of low-noise, low-distortion high speed audio amplifiers, and output drivers provide superb measured and subjective audio quality.
- Multi-stage power supplies for precise power to the sensitive analog circuitry
- Precision audio grade resistors and precision metal foil film capacitors in the audio signal path.
- Ultra low noise second stage dual independent regulation for the analog amplifier sections.
- Single-stage amplifier and class A operation to insure minimal signal degradation and maximum dynamic performance.
- Rear panel gain and load switching using precision sealed double wiping gold contact switches.

CONDITIONING

The sonic performance of the PHONO3VB will begin to stabilize after 100 hours of continuous power up.

Rear Panel Connections



- VB power interconnect jack to interface with either the VBS1 or LNS1 power supplies
- Ground
- RCA Outputs
- Dip Switches for Gain and Loading (Resistance and Capacitance)
- RCA Inputs

Settings for PHONO3VB

Switch Settings

A set of 9 switches are available next to each RCA input. These are used to setup the optimum Gain, Resistive Load and Capacitive Load for your cartridge. Please refer to the manual for your cartridge for optimum gain and RC loading recommendations.

Note that you should Mute or Disconnect the PHONO3VB from your preamplifier before making any changes to the rear panel switches.

We recommend using a small flat tip screwdriver such as used for attaching your cartridge to a tonearm or a similar tool to change the switch positions.

Gain Setting Switches:

The PHONO3VB default gain setting will be for typical high output cartridges, from 2mV to 5mV nominal output levels the 40 dB gain setting will be best. If you are using a low output Moving Coil cartridge
then switch each channel to the 60 dB setting by pressing the Gain Switches to the DOWN position.

Ensure that the power to the PHONO3VB is disconnected and/or the preamplifier is muted before changing this setting to prevent a large transient from damaging your loudspeakers or power amplifiers!

Input Resistor Load Setting Switches:

The default input resistance is 47,000 (47K) ohms when all switches are in the UP position. When a switch is set in the DOWN position the corresponding resistor value is placed in parallel to the 47K resistor, resulting in a lower input resistance. This means that a large range of effective input resistance values can be selected by selecting different parallel combinations of resistance value. The table on the following page can be used to determine the switch positions for different input resistance values.

Input Capacitor Load Setting Switches:

The default input capacitance value when all catacitance switches are in the UP is 150 picofarads (150pF). Additional capacitance can be added to
this by selecting one of the capacitance values by placing the corresponding switch in the DOWN position: 100pF, 220pF or 390pF. These values will add to the total input loading capacitance. The table on the following page can be used in setting the switches to achieve the desired input capacitance.

NOTE: Both channels have the same switch settings! The 2nd Switch next to the gain switch is not used and can remain in the UP position.

Settings for PHONO3VB

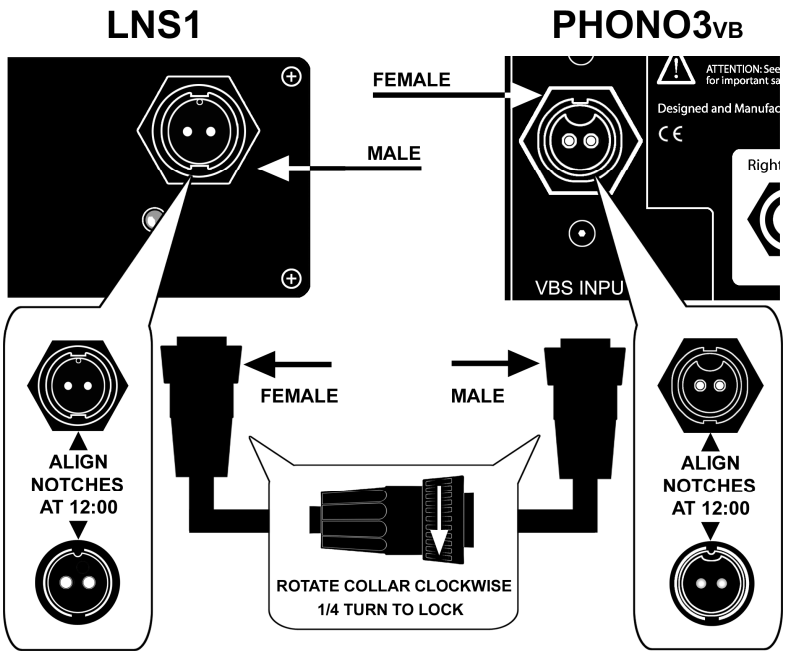
Resistance switch in down(D) position

10000	1000	500	100	50	*Effective Load Resistance (ohms)*
D					8250
	D				980
		D			495
			D		100
				D	50
D	D				891
	D	D			331
	D		D		91
		D	D		83
		D		D	45
	D	D	D		77
		D	D	D	31
D	D	D	D	D	24

Selected Capacitor(s)

100 pF	220 pF	390pF	*Total Load Capacitance*
			150 pF
D			250 pF
	D		370 pF
		D	540 pF
D	D		470 pF
D		D	640 pF
	D	D	760 pF
D	D	D	860 pF

Connecting The LNS1



- The PHONO3VB must be powered by either the VBS1 or the LNS1. If using the VBS1, please refer to the VBS1 User's Guide for connectivity. If using the LNS1, please read the following
- The LNS1 is designed to power Bel Canto VB equipped products only. Use of any cable other than the supplied power interconnect may damage either the LNS1 or VB equipped unit and will void any warranty. Certain non-VB equipped units can be factory upgraded. To begin the upgrade process, fill out the RMA form in the Support Section of our website.
- When connecting your VB unit to the LNS1, be careful to observe the alignment notches on both units power receptacles and the power interconnect cable.
- When inserting the power interconnect cable, align the notch on the cable end and the alignment teeth on the outer sleeve to the 12 o'clock position. This will allow the interconnect cable to fully seat and ensure that the plug mates correctly with the power receptacle.
- Once the power interconnect cable is fully seated in the receptacle, lock in the power interconnect cable by turning the outer sleeve clockwise one quarter turn. Proper seating of the LNS1 cable will ensure safe and secure operation of the LNS1 and all connected components.
- The LNS1 has been designed to run on non-regulated, non-filtered AC Mains. Usage of any additional isolation or filtration from the AC Mains supply may compromise LNS1 performance.

Specifications

Bandwidth:	1Hz-50KHz
RIAA Accuracy:	20Hz-20KHz +/- 0.2 dB
Signal to Noise Ratio 40 dB gain:	>80 dB A weighted, re 5mV RMS in
Distortion @ 2 Volt RMS/1kHz:	<0.01%
Maximum Output Level:	9.5 V RMS
Output Impedance:	100 Ohms single ended
Input Impedance:	47K Ohms nominal (all Resistor Switches UP)
Gain Level Options:	40 dB (100X) and 60 dB (1000X)
Power On usage:	10W
Power Off usage:	0.0W
Internally Set Operating Voltages (LNS1 or VBS1):	100-120VAC or 230-240VAC 50/60 Hz
Dimensions:	8.5” W x 12.5” D x 3” H (216 mm x 318 mm x 75 mm)
Weight:	10 lbs. (4.5 kg)

Declaration Of Conformity

Application of Council Directive(s):
2004/108/EC and 2006/95/EC, as amended

Standard(s) to Which Conformity Is Declared:
EN 55013:2001 + A1:2003 + A2:2006
EN 55020:2007
EN 61000-3-2:2006
EN 61000-3-3:1995 + A1:2001 + A2:2005
EN 60065:2002/A12:2011

Manufacturer:
Bel Canto Design, Ltd.
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The equipment identified here conforms to the Directive(s) and Standard(s) specified above.

Type of Equipment: Audio Preamplifier
Models: PHONO3VB
Date: January, 2012

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